

Part 4: Instructions for programming DAC CI. 745-26; -28 Program-Version 745A05

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1. General

This short description contains important information to the safe, proper and economical use of the new controls generation "**DAC**" (Dürkopp Adler Control).

Screen displays in this short description

The display of the symbols in the various screens is dependent on the settings, the subclass and the equipment of the sewing unit.

The screen displays shown in this short description must therefore not always exactly match the screen shown in the display of the control unit.

Operator terminal with graphic guidance of the operator

The operator terminal is equipped with a LCD display and a keypad. The guidance of the operator occurs exclusively via internationally understood symbols. The various symbols are combined into groups within the menu structure of the sewing and testing programs. The simple operation makes possible short training times.

Ease of programing

The user can combine 99 freely programmable pocket programs with up to 25 seam patterns. For the sewing of sequences, 10 pocket sequences are available. Each pocket sequence can be put together in any desired order out of a maximum of 6 pocket programs. With the "angled pocket version" Class 745-28 all practically suitable angles can be programmed by the operator with the push of a button. The time consuming adjustment of the corner knives and the inconvenient programming of seam offsets are avoided.

Setting and testing programs

The **DAC** has integrated the comprehensive **MULTITEST** testing and monitoring system.

A microcomputer assumes the control tasks, monitors the sewing process and displays operator errors and malfunctions.

Error and testing results are shown in the LCD display.

During fault-free functioning the display shows information to the operation and the sewing procedure.

With an operator error or a malfunction the function sequence is interrupted. The display shows the cause through the appropriate error symbol.

In most cases the error symbol disappears after the cause of the error is remedied.

In some cases the main switch must be turned off for safety reasons during the correction of the error.

A part of the error messages is meant only for the maintenance staff.

Special programs aid in making the mechanical settings and make possible a quick checking of the input and output elements without additional measuring devices.

RAM memory card

The RAM memory card serves for the long-term storage of all programmed data.

It can be used to transfer the data to other sewing units.

The controls transmit the data to the memory card.

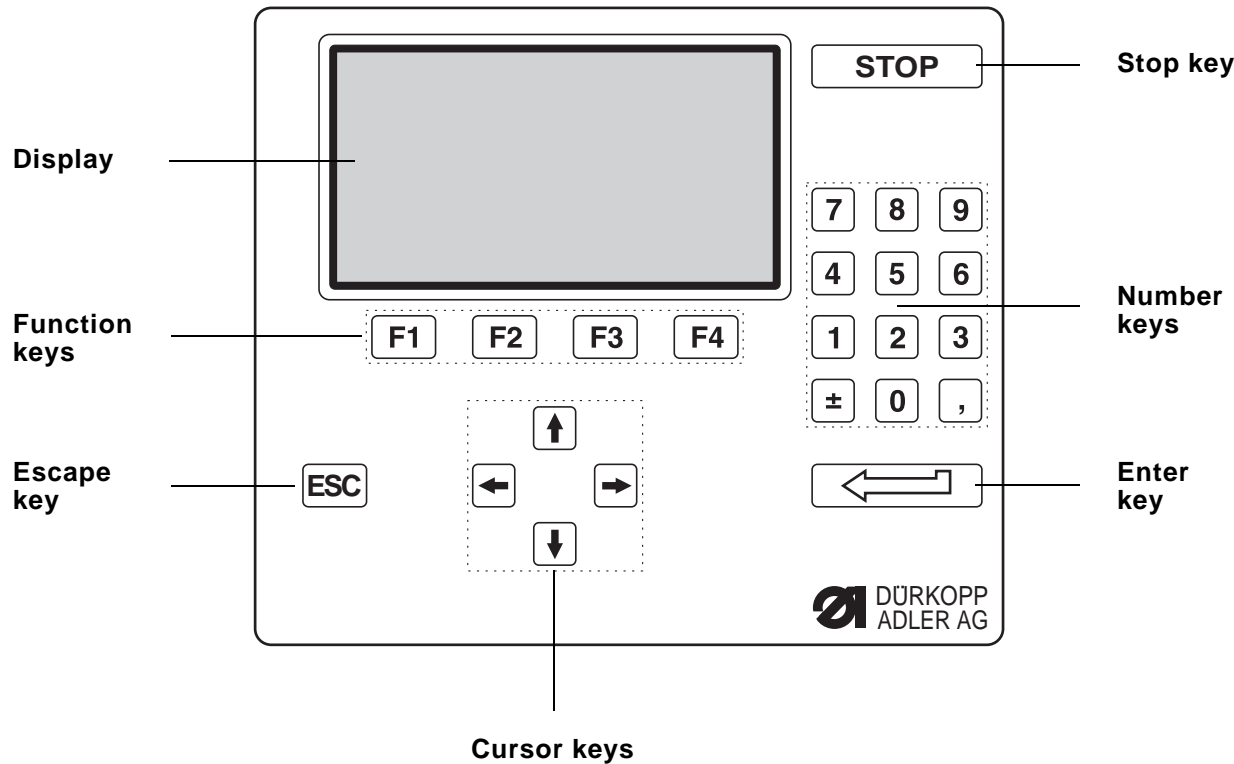
Stored data can be loaded from the memory card into a DAC control again.

This procedure can be repeated as often as desired within the life of the memory card (approx. 4 years).



2. Operator Terminal

The entering and displaying of data occurs via an operator terminal with a LCD display and a comprehensive keypad.



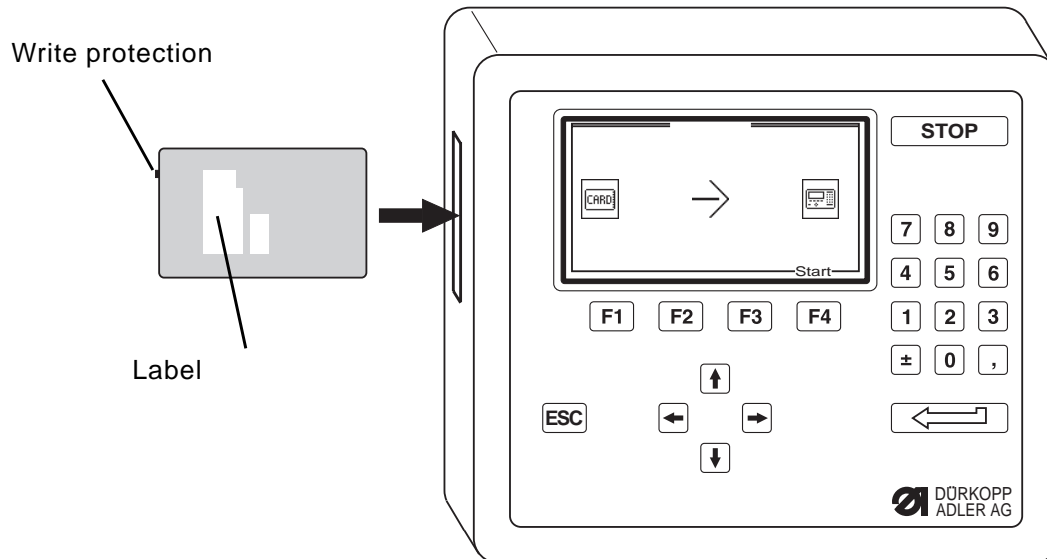
Key/ Key Group	Function
Function keys	Calling up the parameter screens of the sewing programs (from the main screen). Calling up testing programs (during the display of the logo). Turning functions on/off. Exiting testing programs and parameter screens (F1).
Cursor keys	Changing parameter values. ⇐, ⇒ : Selecting the symbol for the desired parameter ↑, ↓ : Turning the function of the parameter on/off, selecting the previous/next step of the parameter value, activating the testing program
Numeric keys	Entering parameter values. ± : Reversing the sign of the parameter value
Escape key	Displaying the old parameter value again.
Enter key	Calling up screen to set the selected parameter. The set parameter value is stored.
Stop key	Exiting the machine program. Stopping the current program.



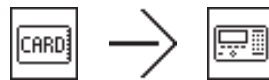
3. Memory card

3.1 Saving and Loading of Programs

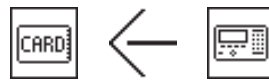
The memory card (RAM card) serves for the longterm storage of sewing programs.
With its aid, sewing programs, seam patterns and machine parameters can be transferred to other sewing units.



- With the main screen as shown insert the memory card in the direction of the arrow into the side of the control unit. The label must face the operator.
- The controls switch into the memory mode. The arrow in the center of the display shows the direction of transfer:



Loading data from the memory card to the controls



Saving data from the controls on the memory card
(Observe the write protection!)

- Set the desired direction of transmission.
Load data: Press the "⇒" cursor key.
Save data: Press the "⇐" cursor key.
- Press function key **F4** (Start).
The data transfer starts.
The symbols for the data to be transferred appear above the arrow in the center of the display.
Upon completion of the transfer all symbols are erased again.
- Remove the memory card.
The display returns to the main screen.
- After the **loading** of data press the **STOP** key.
The controls are initialized again.
This is necessary because, along with the loading of programs, new machine parameters are also loaded.

3.2 Changing the Battery of the Memory Card

Life of the memory card without a battery change: approx. 4 years



ATTENTION !

Programs saved on the memory card are lost when the battery is changed.
Load the programs into the control unit before the battery change!

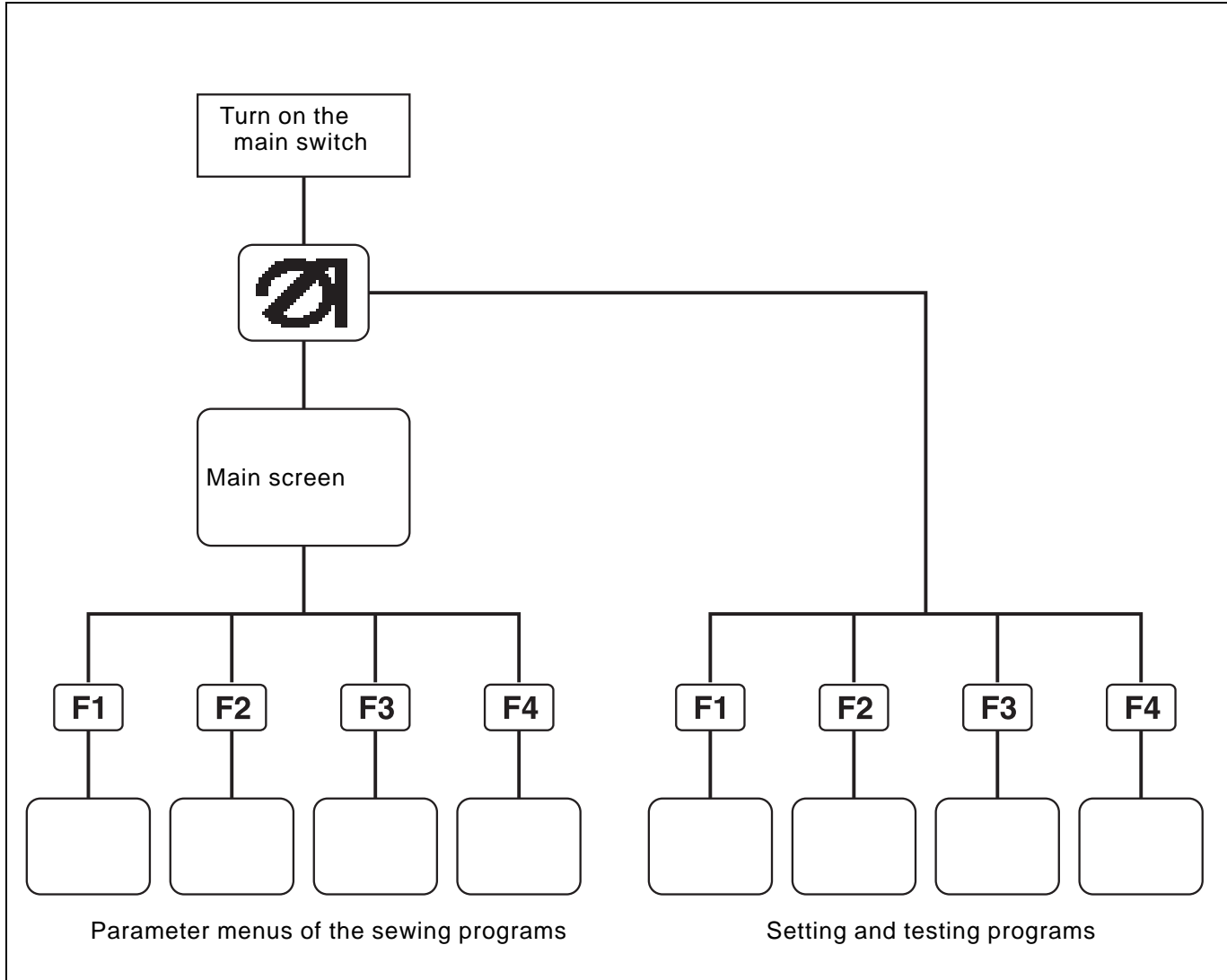


4. Operator Interface

4.1 Menu Structure of the Sewing and Testing Programs

In the design of the operator interface only internationally understood symbols are used.

The individual parameters and setting and testing programs are combined in different groups.



Calling up sewing programs

- Turn the main switch on.
The controls are initialized.
The DÜRKOPP-ADLER logo appears in the display for a short period.
- The display changes to the main screen.
By pressing one of the function keys **F1** to **F4** the corresponding parameter menu of the sewing programs is called up.

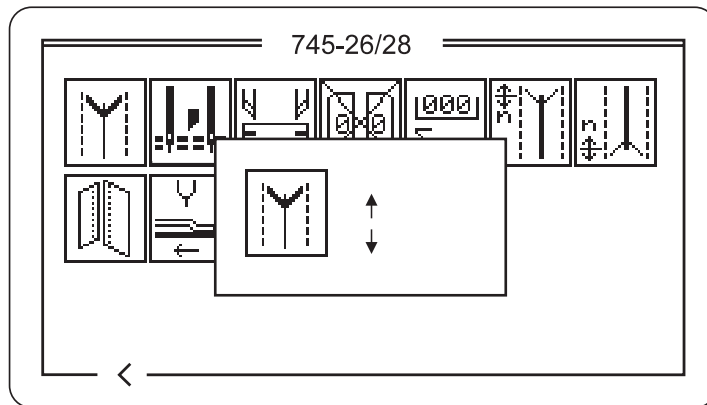
Calling up setting and testing programs

- Turn the main switch on.
The controls are initialized.
The DÜRKOPP-ADLER logo appears in the display for a short period.
- **During the display of the logo** press one of the function keys **F1** to **F4**.
The display changes to the corresponding group of the setting or testing programs.



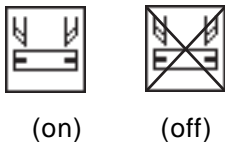
4.2 Changing Parameter Values

The parameter values can be changed in the different parameter screens.



- Select the desired parameter with the cursor keys " \leftarrow " or " \rightarrow ".
The symbol of the selected parameter appears inversely.
- Press the enter key.
The parameter screen appears with the prompt and with the current setting of the parameter value.
- Enter parameter value as described in 1. to 4.
- Press the enter key.
The new setting of the parameter value is stored.

When changing the parameter values it must be differentiated between four groups of parameters.



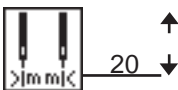
1. Functions, which are turned on/off

- Turn the function of the parameter on or off with the cursor keys " \uparrow " or " \downarrow ".



2. Parameters with different functions

- Set the desired function of the parameter with the cursor keys " \uparrow " or " \downarrow ".



3. Parameters, whose values are changed in steps

- Select the previous or next step of the parameter value with the cursor keys " \uparrow " or " \downarrow ".

Enter: 08, 12, 14, 16, 20



4. Parameters, whose values are entered via the numeric keys

- Enter the desired parameter value with the numeric keys.
Attention!
The value must lie within the fixed limits.
Should a too large or too small a value have been entered, then the upper or lower limit is display after the enter key is pressed.
- If a sign appears in front of the parameter value, this can be changed with the " \pm " key.

Enter: -99 ... +99



5. Sewing Programs

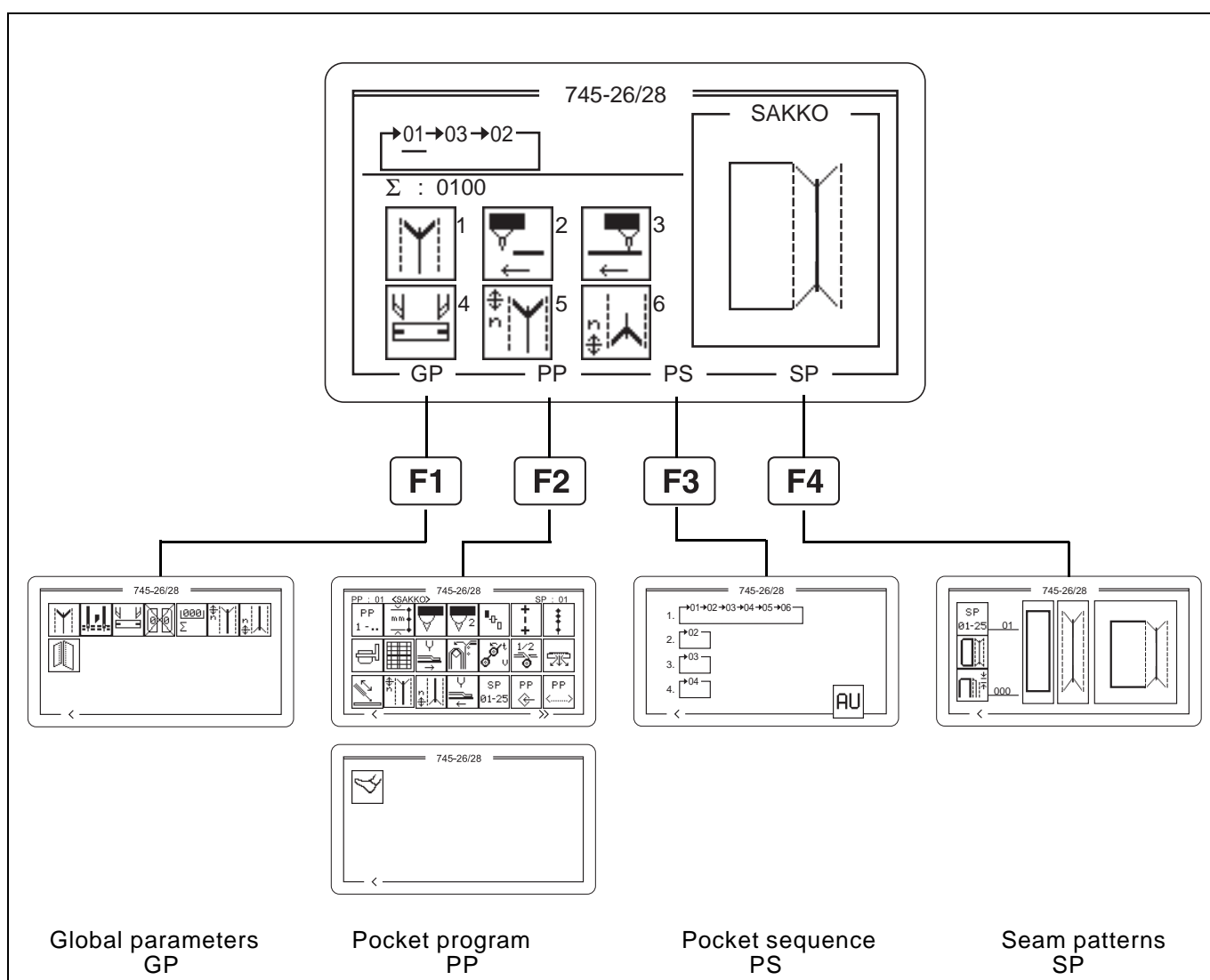
With the **745-26/28** 99 different sewing programs can be combined with up to 25 seam patterns.

The individual sewing programs (pocket programs) can be freely programmed hereby.

For the sewing of pocket sequences 4 independent sequences are available. Each individual sequence can be put together in any desired order out of a maximum of 6 pocket programs.

5.1 Calling Up Sewing Program Parameter Screens

From the main screen it is possible to change to the different parameter screens of the sewing programs with the function keys **F1** to **F4**.



Parameter screens of the sewing programs

Global parameters (GP): Parameters, which are valid for all pocket programs

Pocket program (PP): Parameters for programming the seam run and the associated supplementary functions

Pocket sequence (PS): Programming of pocket sequences

Seam patterns (SP): Parameters for programming the seam patterns



5.2 Starting the Machine Program

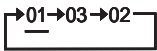
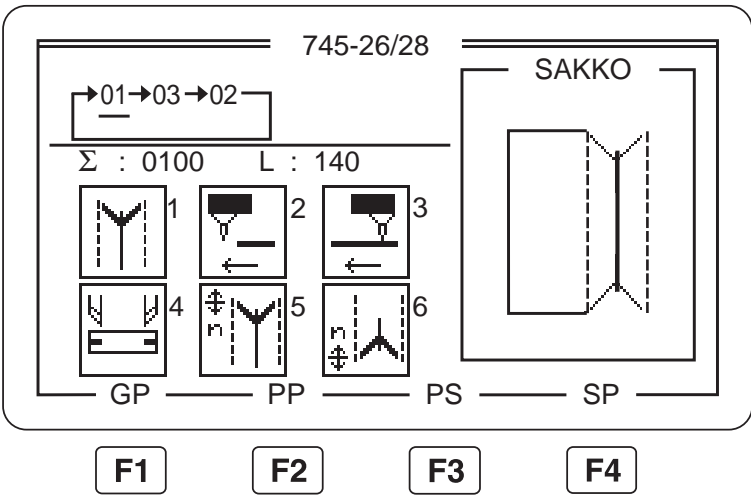


- Turn the main switch on.
The controls are initialized.
- The DÜRKOPP-ADLER logo appears in the display for a short period.
If, during the display of the logo, one of the function keys **F1** to **F4** is pressed, the display switches over to the corresponding group of the setting or testing programs.
- The controls check if the transport carriage is in its rear end position.
If this is not the case the display shows "**<==== REF**" (reference run).
Start the reference run by stepping back on the left pedal.
- The display changes over to the main screen of the sewing unit.
From the main screen it is possible to change to the various parameter screens of the sewing programs by pressing the function keys **F1** to **F4**.
- The machine program is exited by pressing the "**STOP**" key.
The controls are initialized.



5.3 Main Screen

On the main screen are displayed all important parameters, the seam pattern and the selected pocket sequence.

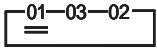


Selecting a pocket sequence

In the upper left corner of the display the selected pocket sequence is shown.

If the automatic change of pocket programs is active, arrows are shown between the individual pocket programs of the sequence.

- Change the pocket sequence with the cursor keys "up" or "down".
"up" key: Select the previous pocket sequence
"down" key: Select the next pocket sequence



Selecting a pocket program in the current pocket sequence

In the pocket sequence a bar marks the selected pocket program. A double bar indicates that in that pocket program the stacker is switched on.

- Select a pocket program with the cursor keys "left" or "right"
"left" key: Select the previous pocket program of the pocket sequence
"right" key: Select the next pocket program of the pocket sequence

Piece counter

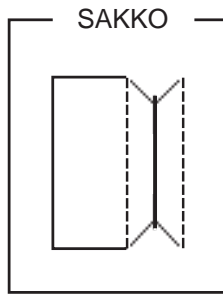
Σ : 0100

To the left under the pocket sequence the current piece count is shown (e.g. "Σ : 0100").
The piece counter shows the number of pieces finished since the last resetting of the counter.
The setting of the piece counter occurs under the "Global Parameters" (function key F1).

Seam length

L : 140

When sewing with distance measurement (without light barrier) the set seam length appears at the right under the pocket sequence (e.g. "L : 140").




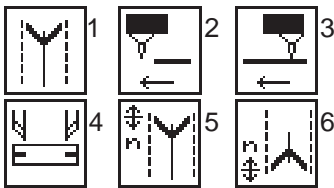
Seam pattern

In the right half of the display the seam pattern of the selected pocket program is shown.
Above the seam pattern the corresponding program name appears.



ATTENTION !

In order to associate the pocket program with a specific seam pattern, change to the parameter screen of the pocket programs (PP) with the function key **F2**. There the desired seam pattern can be accessed with the "  " symbol. The association of a seam pattern is **not** possible via the main screen!



Altering parameters

The six parameters in the lower left half of the display make possible a quick access to the six most important parameters of the current pocket program.

They can be altered directly with the numeric keys.

The number of the key to be pressed is shown at the right next to the parameter symbol.



1: Switching the corner knife on/off



2: Correcting the seam beginning with the light barrier (seam length)



3: Correcting the seam end with the light barrier (seam length)



4: Switching the piping knife on/off

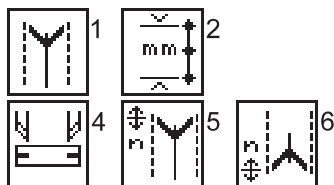


5: Correcting the corner knife incision at the seam beginning



6: Correcting the corner knife incision at the seam end

The functions and settings of the individual parameters are described in more detail in the Chapters 5.4 ("Global Parameters") and 5.5 ("Pocket Program").



The function correcting the seam beginning or correcting the seam end with the light barrier (seam length) can be changed to **distance measurement** (Number 2).

Description see chapter 5.3.2.

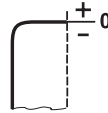
Selecting the function occurs under the "Pocket Program".



Correction the seam beginning with the light barrier

With the change of the value the corner knife is drawn onward accordingly at the seam beginning.

Enter: -99...+99



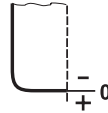
0 = No correction
+ = Seam beginning earlier
- = Seam beginning later
Step size: 0.1 mm



Correction the seam end with the light barrier

With the change of the value the corner knife is drawn onward accordingly at the seam end.

Enter: -99...+99



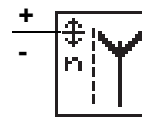
0 = No correction
- = Seam end earlier
+ = Seam end later
Step size: 0.1 mm



Correction of the corner knife on the seam beginning

With the change of the value a fine adjustment of the corner knife incision at the seam beginning occurs.

Enter: -99...+99



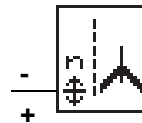
0 = No correction
+ = Corner incision earlier
- = Corner incision later
Step size: 0.1 mm



Correction of the corner knife on the seam end

With the change of the value a fine adjustment of the corner knife incision at the seam end occurs.

Enter: -99...+99



0 = No correction
- = Corner incision earlier
+ = Corner incision later
Step size: 0.1 mm

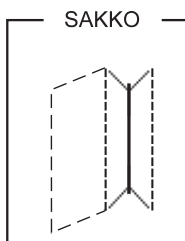
Selecting parameter screens

By pressing the appropriate function key **F1** to **F4** the display changes to one of the four parameter screens.

- F1:** GP (Global parameter)
- F2:** PP (Pocket program)
- F3:** PS (Pocket sequence)
- F4:** SP (Seam patterns)

By pressing the function key **F1** one returns from the parameter screens to the main screen.

5.3.1 Automatic recognition of the flap angle



When the unit is supplied with the kit 0794 002472 , Automatic Detection of Inclination, (auxiliary equipment), the 2nd LED must be activated. The flap to be sewn, shown on the main screen, will appear dashed.



5.3.2 Sewing distance measurement

For measuring the seam length, two possibilities are available. Use the pocket programme for selecting. The two possibilities are reciprocally locked, i.e. that only one of the two possibilities can be selected. The other one is deactivated.



Automatic recognition of the flap beginning and end

With this setting the reflecting light barrier for the recognition of the seam beginning and seam end when sewing with flap is switched on.



Distance measurement

The shortest seam lengths which can still be sewn with the distance measurement are dependent on the following parameters:

- Maximum seam length (180 or 220 mm)
- Subclass (-26 or -28)
- Selected positioning point

Forward positioning point:

Needle Clearance [mm]	Shortest Seam Length [mm]
8	15
10	20
12	25
14	30
16	35
20	40

Rear positioning point:

max. Seam Length [mm]	Shortest Seam Length [mm]	
	745-26	745-28
180	20	60
220	60	100

Central positioning point:

Sewing Length [mm]	Shortest Seam Length [mm]	
	745-26	745-28
180	20	20
220	60	90-APM *

APM = Position of the central positioning point

* The shortest seam length, however, may not fall short of that given for the forward positioning point.

The change of the seam length parameter value is done on the main screen.

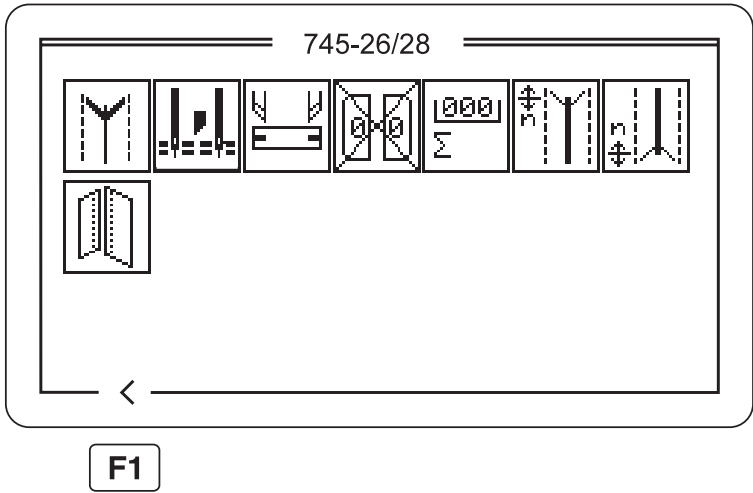
- Operate the key " 2 ".
The setting window, prompting to enter, will appear.
- Change the parameter as described under chapter 4.2.



5.4 Global Parameters (F1)

Global parameters are parameters, which apply for **all** pocket programs.

Example: If the corner knife is switched off **all** pockets will be made without corner knife incisions.



- With the main screen as shown press function key **F1**. The display changes to the screen for the global parameters.
- Select the desired parameter with the cursor keys "<" or ">". The symbol of the selected parameter appears inversely.
- Change the selected parameter as described in Chapter 4.2.
- By pressing the function key **F1** the display returns to the main screen.




Switching the corner knife on/off

Enter: on/off



Switching the center knife on/off

Enter: on/off



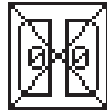
ATTENTION !

When the center knife is switched off the corner knives are also automatically switched off. When the center knife is switched on again, the corner knives remain switched off. They must be switched on separately.



Switching the piping knife on/off

Enter: on/off



Setting the closing order of the flap clamps

6 different settings can be chosen:



Without flap clamps



Close first the left, then the right flap clamp



Close first the right, then the left flap clamp



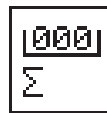
Close both flap clamps simultaneously



Only the right flap clamp exists



Only the left flap clamp exists



Piece counter

The piece counter shows the number of pieces completed since the last resetting of the counter.

Enter: 0...9999



Correcting the center knife incision at the seam beginning

With a change of the value a fine adjustment of the center knife incision at the seam beginning occurs.

Enter: -15...+15 0 = No correction
 + = Turn the center knife on earlier
 - = Turn the center knife on later
 Step size: 1 cycle = 0.4 mm

ATTENTION !

An Offset can be entered for the pocket parameters.



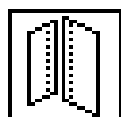
Correcting the center knife incision at the seam end

With a change of the value a fine adjustment of the center knife incision at the seam end occurs.

Enter: -15...+15 0 = No correction
 + = Turn the center knife off earlier
 - = Turn the center knife off later
 Step size: 1 cycle = 0.4 mm

ATTENTION !

An Offset can be entered for the pocket parameters.



Activate working method for breast welt pocket (745-28 A)

The breast welt pocket working method will be connected / disconnected.

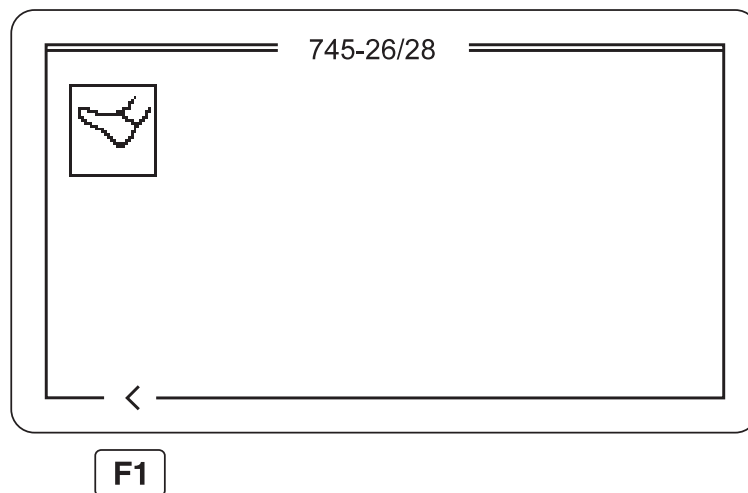
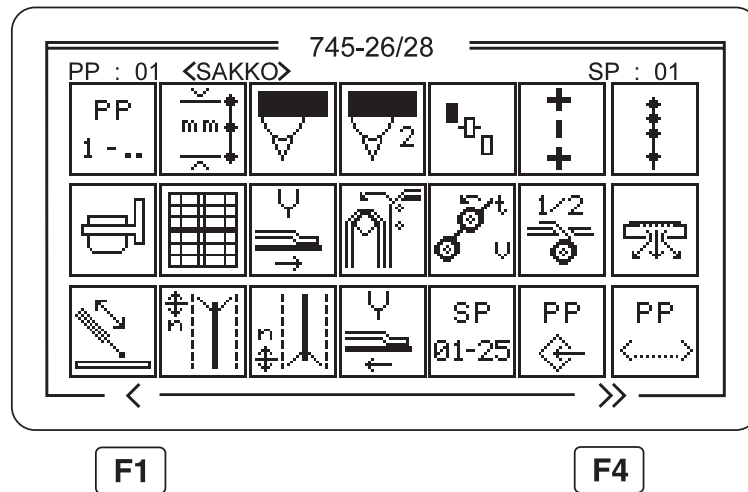
Enter: on/off



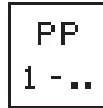
5.5 Pocket Program (**F2**)

Under this menu item are located the parameters for programming the various pocket programs.

With the aid of the parameters the seam run and the supplementary functions associated with it are freely programmed.



- With the main screen as shown press function key **F2**. The display changes to the pocket program screen. By pressing the function key **F4** the display changes to the second screen of the pocket program.
- In the upper left line of the display is shown the currently selected pocket program (e.g. "**PP : 01**"). If it exists, the associated program name appears below it (e.g. "<**JACKET**>").
- In the upper right corner of the display the seam pattern number of the selected pocket program appears (e.g. "**SP : 01**").
- Select the desired parameter with the cursor keys "<" or ">". The symbol of the selected parameter appears inversely.
- Change the selected parameter as described in Chapter 4.2.
- By pressing the function key **F1** the display returns to the first screen of the pocket program or to the main screen.



Pocket program number

With this parameter the pocket program to be changed is selected.

After completion of the entry the new pocket program and the corresponding program name appear in the upper left corner of the display.

Enter: 1...99

Sewing distance measurement

Two different possibilities can be selected. Use the pocket programme for selecting. The two possibilities are reciprocally locked, i.e. that only one of the two possibilities can be selected. The other one is deactivated.



Distance measurement

When using distance measurement, the seam length is entered with the main screen being on.



Automatic recognition of the flap beginning and end

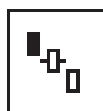
With this setting the reflecting light barrier for the recognition of the seam beginning and seam end when sewing with flap is switched on.



Automatic recognition of the flap angle

When the unit is supplied with the kit 0794 002472 , Automatic Detection of Inclination, (auxiliary equipment), the 2nd LED must be activated.

The flap to be sewn, shown on the main screen, will appear dashed.



Selecting the positioning point

Depending on the type of goods to be sewn, positioning occurs at the rear, central or forward positioning point.



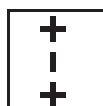
Rear positioning point (toward the operator)



Central positioning point



Forward positioning point (to the machine head)



All positioning lights on/off

Enter: on/off

on = all positioning lights are switched on

off = positioning lights are switched as set in the pocket programm



Stitch condensation or bartacking at the seam beginning and seam end

By changing this parameter a choice is made whether the seam beginning and seam end are executed with stitch condensation or with bartacking.



with stitch condensation



with bartacking



ATTENTION !

By 1.4 mm stitch length in stitch condensation the bartacking is sewn with a stitch length of 0.8 mm.



Flap feed on/off

Enter: on/off (only bei feed methods B, C, F)



Sewing patterned or plain goods



Patterned goods (only with feed methods D, F)



Plain goods



Transport carriage return after sewing



Wait position

After the sewing the transport clamps automatically run back into the wait position without sewing goods.



Feed position

After the sewing the transport clamps automatically run back into the feed position without sewing goods.



Return with sewing goods

(only with feed method A)

After the sewing the transport clamps transport the sewing goods back into the feed area.



Stacker on/off

Enter: on/off



Smoother on/off

Enter: Active period: $t = 5 \dots 20$
 Step size: $1 \text{ cycle} = 0.1 \text{ s}$
 Speed level: $v = 5 \dots 15$

Note:

With the smoother there is a dual use of the solenoid valves:

- Stacker switched on: The smoother is triggered as a stacker supplement (Y63).
- Stacker switched off: The smoother is triggered as an ejector (Y42).



ATTENTION !

If both a stacker and a smoother are available and no stacking procedure takes place, then both parameters must be switched off!



Tape feed on/off

Enter: Tape length at the seam beginning: $20 \dots 100 \text{ [mm]}$
 Tape length at the seam end: $20 \dots 100 \text{ [mm]}$



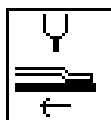
Hold-down on/off

Enter: on/off



Vacuum on/off

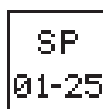
Enter: on/off



Setting the feed speed

The feed speed, between the loading station and the needle, can be reduced in steps of each 10%.

Enter: $50 \dots 100$ (100%)



Associating a seam pattern to the pocket program


After this parameter is selected the display changes to the seam pattern screen.

There the selected seam pattern can be changed or a different seam pattern selected (see Chapter 5.1).

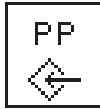
After the return to the main screen (function key **F1**) the last seam pattern created is associated to the current pocket program.



ATTENTION !

The association of a specific seam pattern with a pocket program must be made with the "  " symbol.

This association is **not** possible via the main screen (SP/F4)!



Copying a pocket program

With this parameter the selected pocket program can be copied into another pocket.

The number to be entered shows the pocket program into which the selected pocket program is to be copied.

After completion of the entry the number and name of the pocket program into which the copy was made appears in the upper left corner of the display.

Enter: 1...99



Entering program names

This parameter enables the labeling of each pocket program with an individual program name (e.g. "JACKET").

The program name may have a maximum of 8 letters.

- Press the "↑" or "↓" cursor key.
A window is opened in the lower right corner of the display.
The program name of the current pocket program appears in this window.
If the current pocket program was not yet given a program name the window remains empty.
- One moves through the alphabet with the function keys **F2** and **F3**.
F2: move forward
F3: move back
- By pressing the cursor keys "⇐" or "⇒" the cursor moves one position to the left or right respectively.
- Press the enter key.
The entry is completed.
The entered program name is stored.
By pressing the "**ESC**" key the old program name is used again.



Selecting pedal mode

When using the loading mode with vacuum and/or holding-down clamp, it is possible to select between two variants.



For selecting this mode with the pocket programme, the Vacuum and/or the Down-holder clamp must be active.
When loading, the pedal must first be treaded into its basic position. Then it must be operated once again, before the feeding clamp travels to the seam beginning.



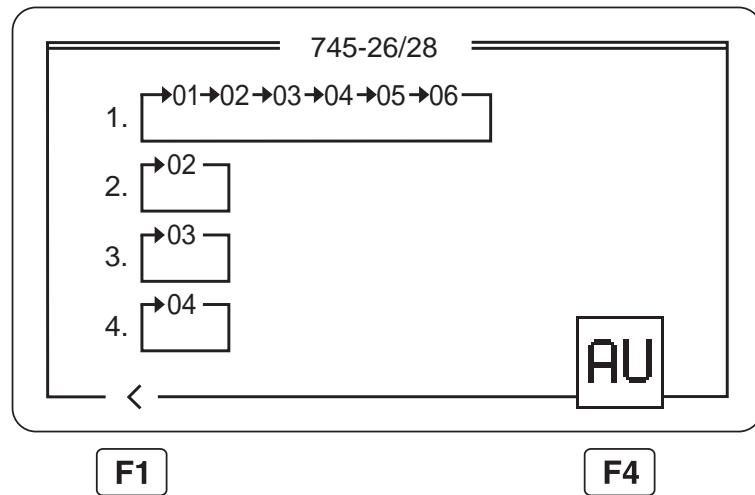
When using this mode, only one pedal operation is required for starting the loading process.



5.6 Pocket Sequence (**F3**)

Under this menu item the individual pocket programs are combined into sequences which can be called up.

A total of 10 independent pocket sequences are available. Each pocket sequence can be combined out of up to six pocket programs in any desired order.



Programming a pocket sequence

- With the main screen as shown press the function key **F3**. The display changes to the pocket sequence screen. The display shows the four current pocket sequences.
- Move the cursor with the cursor keys "↑" or "↓" to the desired pocket sequence. The number of the selected pocket sequence appears inversely.
- Program the pocket sequence. Enter the numbers (01...99) of the desired pocket programs consecutively with the numeric keys. With single digit pocket program numbers a "0" must be entered in front of the desired number. After the sixth pocket program is entered the programmed pocket sequence is automatically saved.
- Press the enter key. The pocket sequence is saved. By pressing the "**ESC**" key during programming the old pocket sequence is restored.
- By pressing the function key **F1** the display is returned to the main screen.



Automatic change of the pocket programs on/off

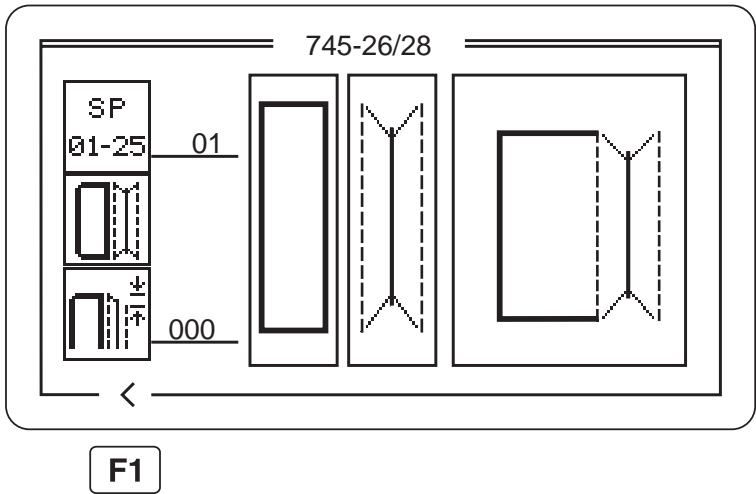
If this function is switched on the controls automatically move to the next pocket program of the pocket sequence after a pocket program has been worked through.

- Turn the automatic change of the pocket programs on or off by pressing the function key **F4**. The automatic change is shown in the display by arrows between the individual pocket programs of the pocket sequences.



5.7 Seam Patterns (F4)

Under this menu item up to 25 different seam patterns can be programmed.

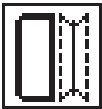


- With the main screen as shown press the function key **F4**. The display changes to the seam pattern screen.
- Three parameters for the programming of the seam pattern number, the flap side and an additional seam offset appear in the left third of the display.
In the windows in the center of the display are shown the flap form (left window) and the seam pattern (right window).
In the window in the right third of the display is shown the complete seam pattern with flap.
- Select the desired parameter with the cursor keys "←" or "→". The symbol of the selected parameter appears inversely.
- Change the selected parameter as described in Chapter 4.2.
- By pressing the function key **F1** the display returns to the main screen.



Selecting a seam pattern

After the initialization of the program memory 25 standard seam patterns are filed in the controls (see Appendix A1). They can be called up directly by entering the seam pattern number.
Enter: 1...25



Selecting a flap side

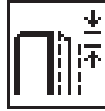
The sewing unit is equipped with a reflected light barrier for the recognition of the seam beginning and seam end when sewing with flap. The parameter shows the side on which the flap is positioned. With the a change of the parameter the flap side of the seam pattern in the right third of the display automatically changes.



flap at the left

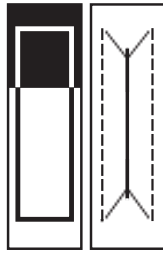


flap at the right



Additional seam offset

Enter: 0...20 [mm]

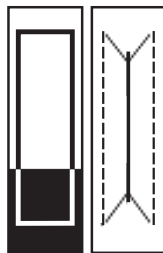


Selecting the flap form at the seam beginning

With the cursor keys "↑" or "↓" a choice can be made between the following seven flap forms:



The numbers above the flap forms denote the different angles.

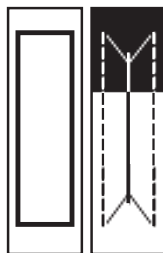


Selecting the flap form at the seam end

With the cursor keys "↑" or "↓" a choice can be made between the following seven flap forms:



The numbers under the flap forms denote the different angles.

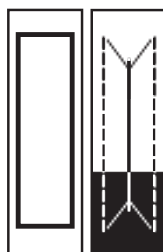


Selecting the seam pattern at the seam beginning

With the cursor keys "↑" or "↓" a choice can be made between the following seven seam patterns:

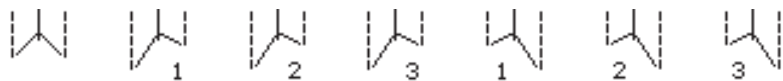


The numbers over the seam patterns denote the different angles.



Selecting the seam pattern at the seam end

With the cursor keys "↑" or "↓" a choice can be made between the following seven seam patterns:



The numbers under the seam patterns denote the different angles.

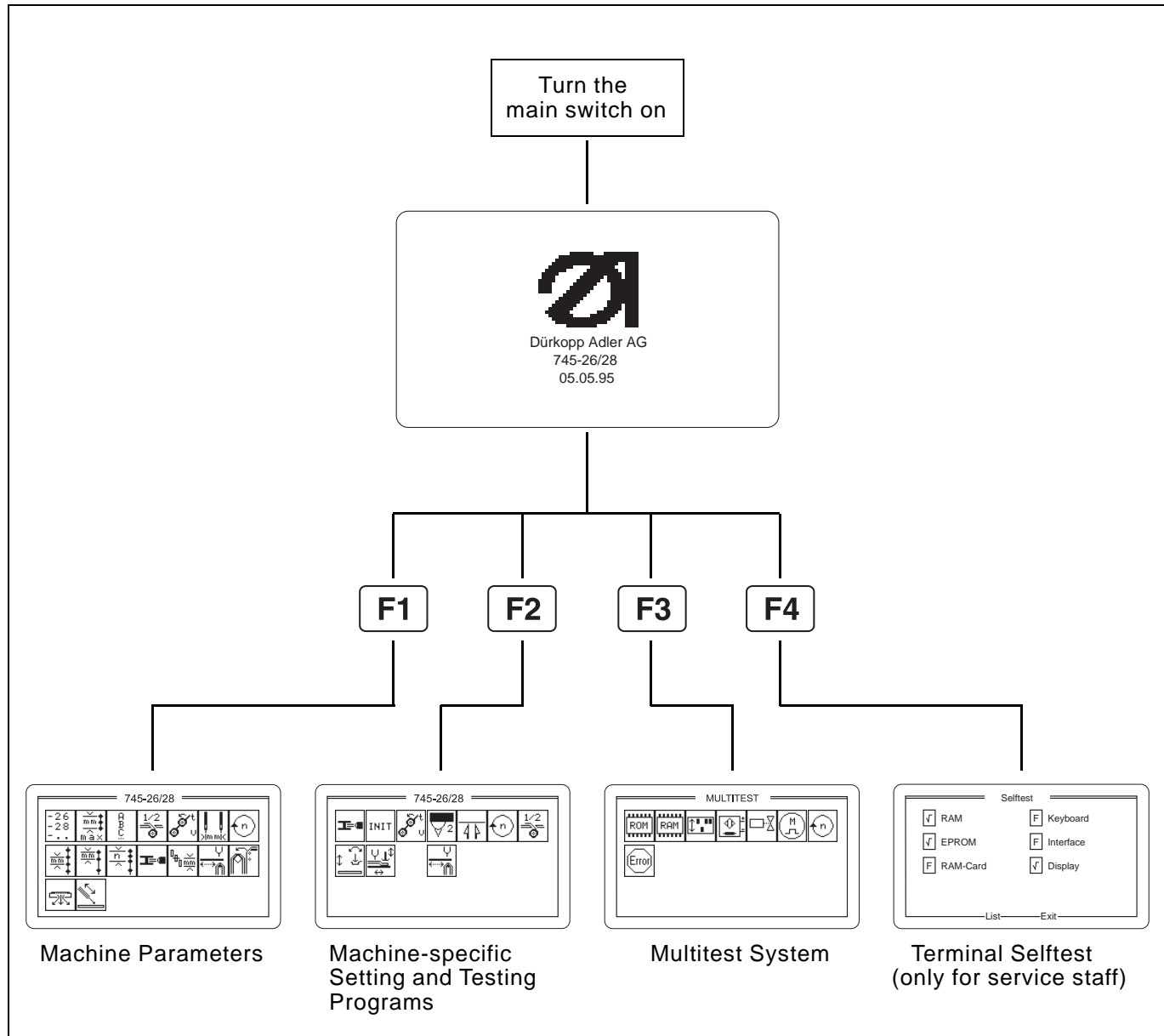


6. Setting and Testing Programs

The machine software encompasses different machine-specific setting and testing programs and the well-known Multitest system. A terminal selftest checks the individual components of the operator terminal.

6.1 Calling Up Setting and Testing Programs

After the sewing unit is turned on one can change over to the different groups of setting and testing programs with the function keys **F1** to **F4**.



- Turn the main switch on.
The controls are initialized.
The DÜRKOPP-ADLER logo appears in the display for a short period.
- While the logo is visible press one of the function keys **F1** to **F4**.
The display changes to the corresponding group of setting and testing programs.



6.2 Machine Parameters (STOP + F1)

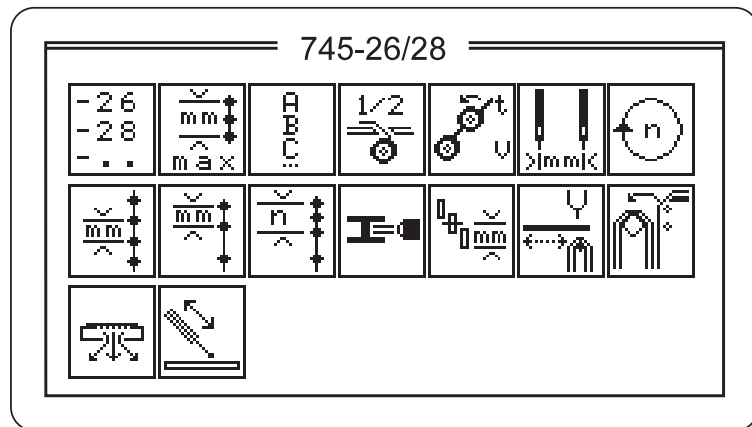
The machine parameters describe the technical execution of the sewing unit, as well as the machine settings and their correction values.



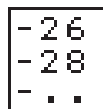
ATTENTION !

As a rule changes in the machine settings result in mechanical conversions.

For this reason this part of the program can only be accessed after entering the code number "25483".



- While the DÜRKOPP-ADLER logo is visible press the function key **F1**.
The prompt for the code number appears in the display.
- Enter the code number "25483" with the numeric keypad.
- After the entering of the correct code number the display changes to the machine parameter screen.
With an incorrectly entered code number the display changes to the main screen.
- Select the desired parameter with the cursor keys "←" or "→".
The symbol for the selected parameter appears inversely.
- Change the selected parameter as described in Chapter 4.2.
- To exit the machine parameters press the "STOP" key.



Selecting the subclass

Enter: 26, 28



Maximum sewing distance

Enter: 180, 220 [mm]



Feed device

Enter: A, B, C, D, F, H

745-26 745-28

	X	A:	Piped pockets, manual positioning of the piping strip, flap and other supplementary parts
X	X	B:	Piped pockets, automatic feed of the piping strip, without cutting of the piping ends
X	X	C:	Piped pockets, automatic feed of the piping strip, with cutting of the piping ends
	X	D:	Breast pockets, automatic feed and aligning of the breast selvage
	X	F:	Piped pockets, automatic feed of the piping strip, automatic feed and aligning of the flap, with cutting of the piping ends
X	X	H:	Sewing in of the sewing unit (only for service staff)



Activating the smoother

This parameter signals the controls if the sewing unit is equipped with a smoother.

The smoother is turned on and off in the main screen under the menu item "Pocket Program" (F2).

Enter: on/off



Switching the tape feed on/off

This parameter signals the controls if the sewing unit is equipped with a tape feed.

The tape feed is turned on and off in the main screen under the menu item "Pocket Program" (F2).

Enter: on/off



Needle clearance

Enter: 8, 10, 12, 14, 16, 20 [mm]



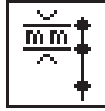
Sewing rpm

Enter: 2500, 2750, 3000 [rpm]



Stitch length

Enter: 2.55, 3.10 [mm]



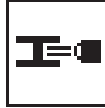
Stitch length in the stitch condensation

Enter: 0.50, 0.80, 1.40 [mm]



Number of stitches in the stitch condensation

Enter: 5...10 [stitches]



Switching the thread monitors on/off

With this parameter the needle thread **and** underthread monitors are switched on and off.

Enter: on/off

Displays: Needle thread breakage:

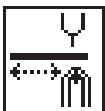
Underthread bobbin empty:

The empty bobbin blinks.



Clearance of the rear positioning point to the central positioning point

Enter: 40...120 [mm]



Switching the remover on/off

This parameter signals the controls if the sewing unit is equipped with a remover.

The remover is turned on and off in the main screen under the menu item "Pocket Program" (F2).

Enter: on/off



Switching the stacker on/off

This parameter signals the controls if the sewing unit is equipped with a stacker.

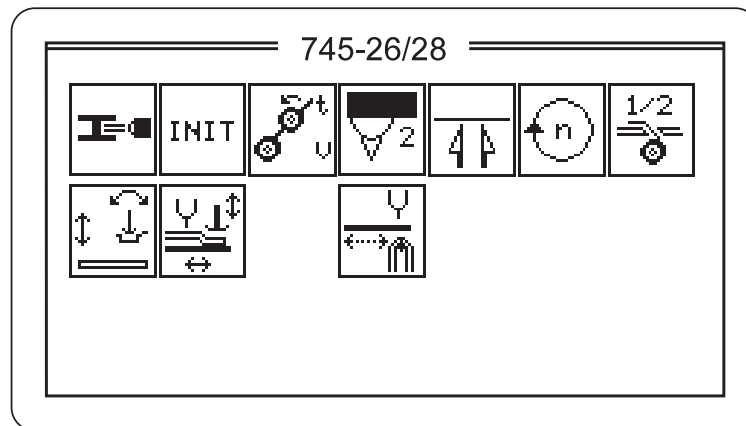
The stacker is turned on and off in the main screen under the menu item "Pocket Program" (F2).

Enter: on/off



6.3 Machine-specific Setting and Testing Programs (+)

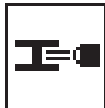
The machine-specific testing programs serve for the setting and testing of the individual machine components.



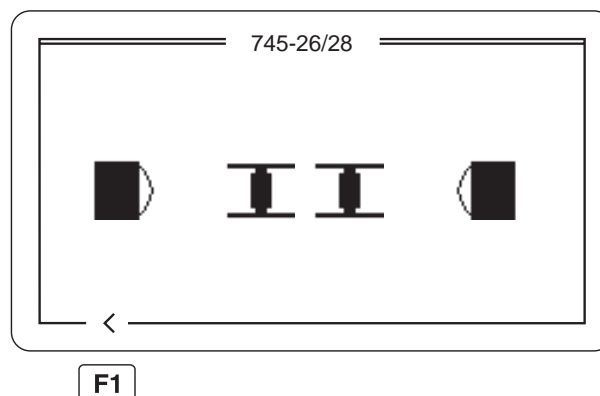
- While the DÜRKOPP-ADLER logo is visible in the display press the function key **F2**.
The display changes to the machine-specific testing programs screen.
- Select the desired testing program with the cursor keys "←" or "→".
The symbol for the selected testing program appears inversely.
- Start the selected testing program with the enter key.
Attention! After starting the program "Testing smoother" the display did not change, only the smoother works.



6.3.1 Setting the Underthread Monitor



This program serves for the alignment of the reflected light barriers of the underthread monitor.



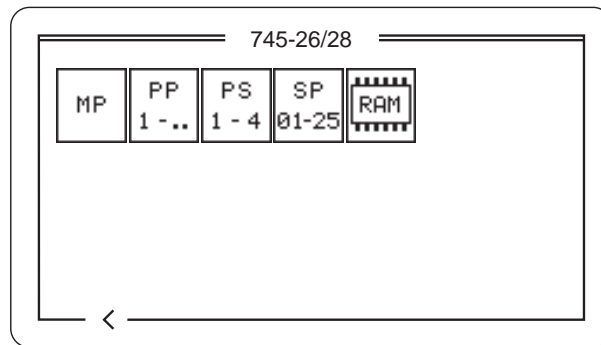
- Start the testing program with the enter key.
The display shows two underthread bobbins and the reflecting heads of the light barriers.
- With a correct alignment of the light barriers a reflection occurs when an empty bobbin is turned.
A reflection is shown by an arrow between the reflecting head and the underthread bobbin.
At the same time a signal tone can be heard.
- To exit the testing program press the function key **F1**.



6.3.2 Initializing the Program Memory

INIT

The program serves to load a standardized factory setting for the parameters of the sewing programs.



F1



ATTENTION !

After starting one of the four programs a standardized factory setting will overwrite the set parameters!

For this reason the program can only be started after entering the code number "25483".



- Start the testing program with the enter key. The display shows the prompt for the code number.
- Enter the code number "25483" with the numeric keypad.
- After the entering of the correct code number the display changes to the five parameters described below. After the entering of an incorrect code number the display returns to the machine-specific parameter screen.



Initialization of defective machine parameters



Initialization of defective pocket programs



Initialization of defective pocket sequences



Initialization of defective seam patterns



Initialization of **all** programs and parameters

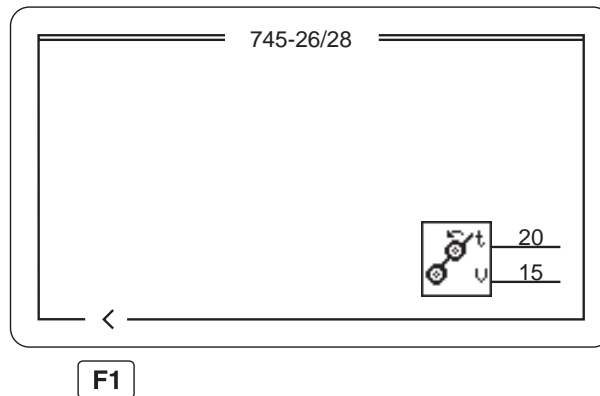
- Select the desired program with the cursor keys "←" or "→". The symbol for the selected program appears inversely.
- Start the selected program with the enter key.
- To exit the testing program press the function key **F1**.



6.3.3 Checking the Smoother Function



With this program the smoother function is tested.



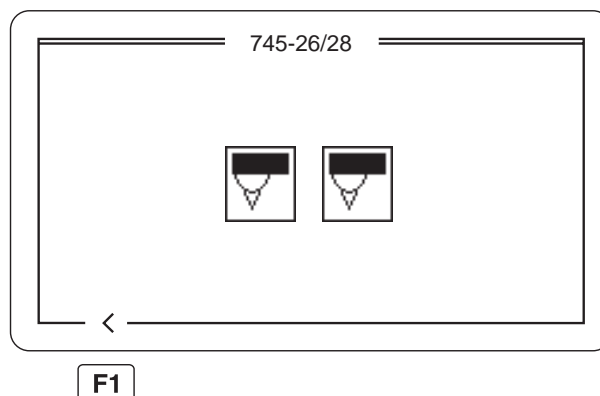
- Start the testing program with the enter key.
The symbol appears in the lower right corner of the display with a prompt.
- Enter the desired values for "t" and "v".

Enter:	Active period:	t = 5...20
		Step size: 1 cycle = 0.1 s
	Speed level:	v = 5...15
- After confirmation of the value for "v" the smoother runs for the selected active period at the selected speed.
- To exit the testing program press the function key **F1**.

6.3.4 Aligning the Light Barriers



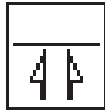
The program serves for the alignment of the reflected light barrier for the recognition of the seam beginning and seam end.



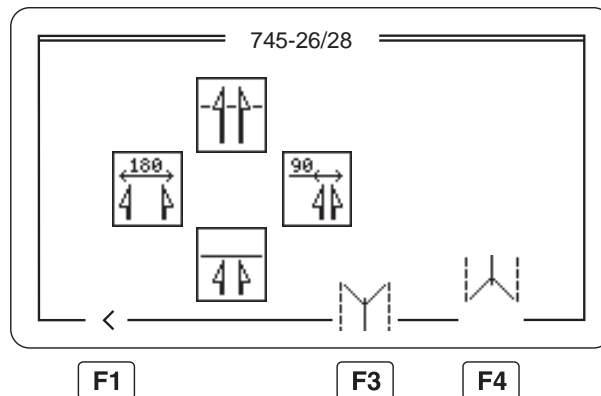
- Start the testing program with the enter key.
Two light barrier symbols appear in the center of the display.
- Manually push the transport clamp under the reflected light barrier.
With a reflection an acoustic signal is heard.
The display of the light barrier symbols changes from inverse to normal.
- To exit the testing program press the function key **F1**.



6.3.5 Setting the Corner Knife Adjustment



With this program the corner knife clearance and the angle of the corner knife can be set.
The minimum and maximum corner knife clearances are dependent on the subclass and the equipment of the sewing unit.

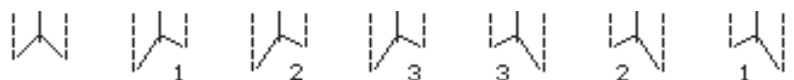


- Start the testing program with the enter key.
- Set the maximum or minimum corner knife clearance with the cursor keys "<" or ">".
- Set the angle of the corner knife with the function keys **F3** (corner knife seam beginning) and **F4** (corner knife seam end). The seam beginning and seam end each have a choice of seven angle settings available.

Corner knife seam beginning (**F3**):



Corner knife seam end (**F4**):



Caution Risk of Injury !

Danger of cuts!
Do not reach into the area of the rising corner knives.

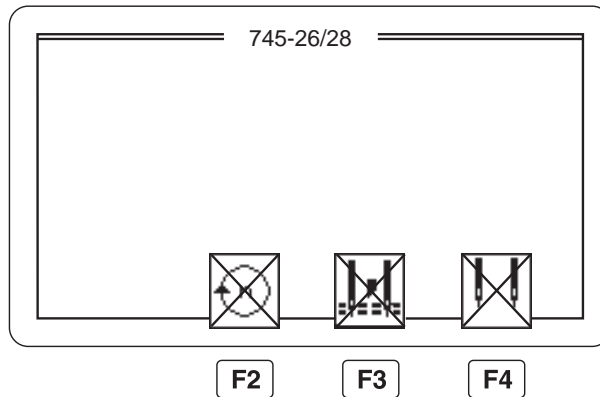
- Press the "↑" cursor key.
The corner knives rise.
- Press the "↓" cursor key.
The corner knives lower again.
- To exit the testing program press the function key **F1**.



6.3.6 Checking the Switching-in of the Needle and Center Knife



This program checks the switching-in of the needles and the center knife with the sewing drive running.



- Start the testing program with the enter key.
- Press function key **F2**.
1st operation: Start of the sewing drive at 1000 rpm
2nd operation: Running the sewing drive at 3000 U/min
3rd operation: Stop in position 2 (thread lever high position)
- Turn the center knife on and off with the function key **F3**.
- Turn the needles on and off with the function key **F4**.
- To exit the testing program press the "**STOP**" key.



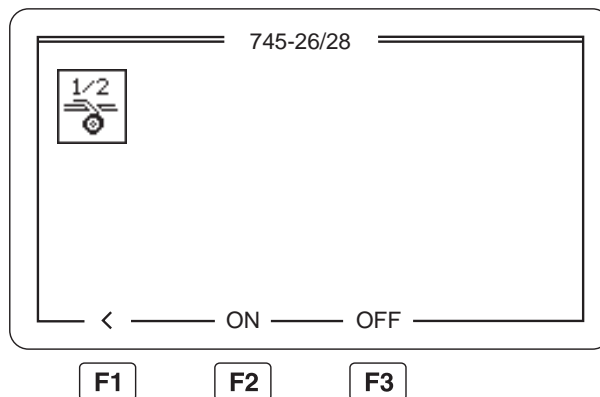
ATTENTION !

Before exiting the program it is essential to let the machine head run briefly with the needles and center knife turned off. Otherwise the next seam will not be executed correctly.

6.3.7 Checking the Tape Feed Function



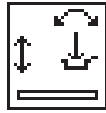
This program tests the transport and cutting function of the tape feed.



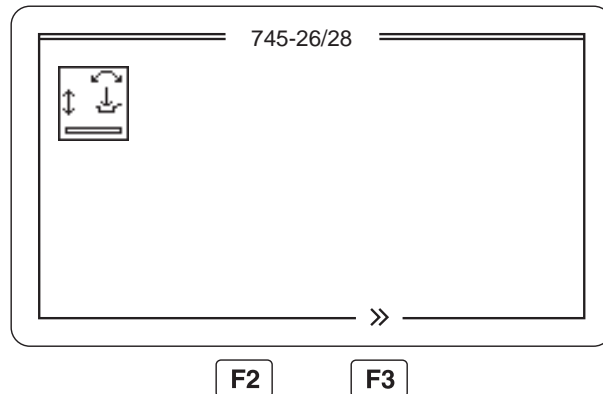
- Start the testing program with the enter key.
- Press function key **F2**. The tape feed starts.
- Press function key **F3**.
The motor of the tape feeds stops.
The tape is automatically cut.
- To exit the testing program press the function key **F1**.



6.3.8 Checking the Catch-folder without Transport Clamp



This program tests the function of the catch-folder.
The transport clamps remain in their rear end position hereby.

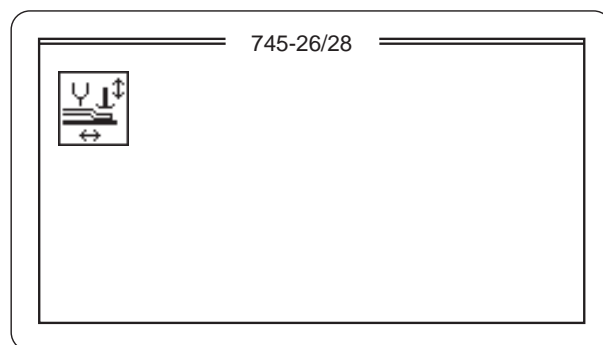


- Start the testing program with the enter key.
- Press function key **F3**.
The catch-folder swings into the vertical position and lowers onto the material slide plate.
- Press function key **F2**.
The catch-folder rises and swings over the feed board.
- To exit the testing program press the "**STOP**" key.

6.3.9 Checking the Feed Procedure with Transport Clamp



This program serves for testing the feed procedure.

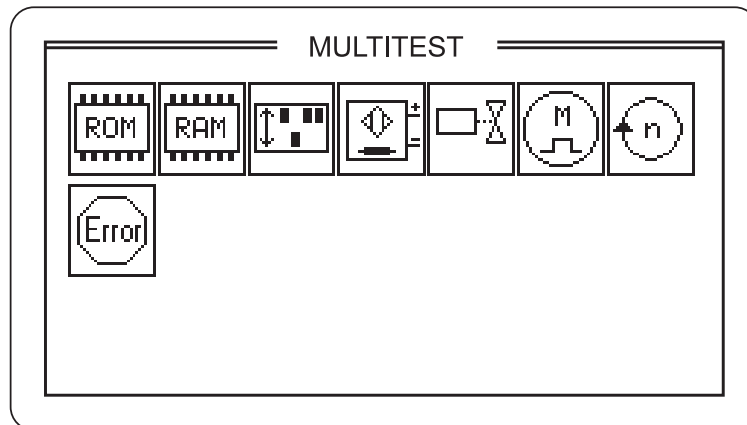


- Start the testing program with the enter key.
A reference run is conducted.
- Step on the pedal.
The transport carriage runs to the feed station.
- The feed procedure is run through as in a sewing program.
After operation of the last stage an arrow appears in the display.
- Run the transport carriage into the rear position by stepping on the pedal in tapping operation.
In this position the transport carriage waits until the pedal is at rest.
- The transport clamps rise and the flap clamps open.
- The program is restarted by stepping on the pedal.
- To exit the testing program press the "**STOP**" key.



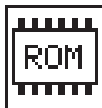
6.4 Multitest System (STOP + F3)

The testing programs of the Multitest system make possible the quick checking of input and output elements.
Additional measuring devices are not necessary.

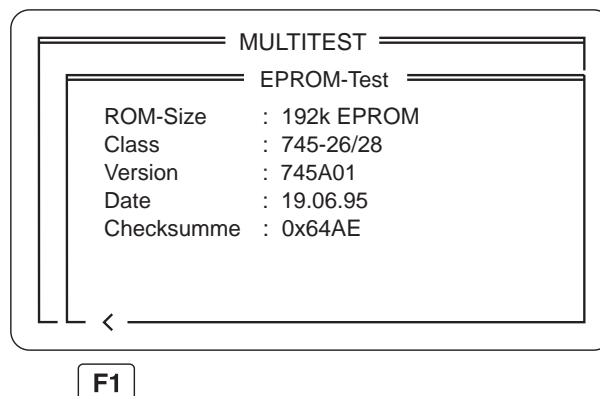


- While the DÜRKOPP-ADLER logo is visible in the display press function key **F3**.
The display changes to the Multitest system screen.
- Select the desired testing program with the cursor keys "←" or "→".
The symbol for the selected testing program appears inversely.
- Start the selected testing program with the enter key.

6.4.1 Displaying the Program Version and Check Sum



The program checks the permanent store memory (ROM) of the microcomputer.



Program version

By program versions with the same class designation and the same identification letter the higher version replaces all lower versions (Example: 745A03 replaces 745A01 and 745A02).

If a replacement is possible although the identification letter is different this will be noted in a special communication to the customer.

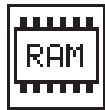
Check sum

The check sum is meant only for the factory service personnel. It shows specialists if the program memory (EPROM) of the sewing unit controls flawlessly contains the complete program.

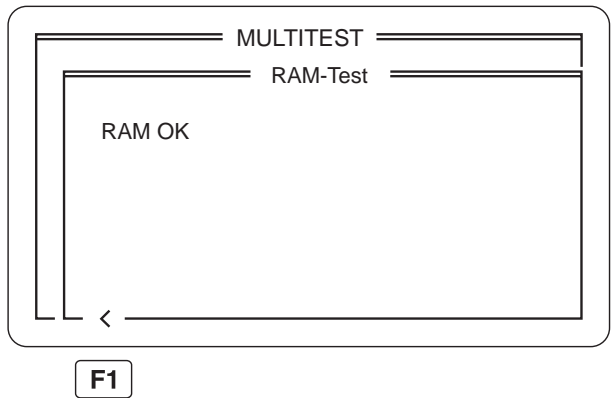
- To exit the testing program press the function key **F1**.



6.4.2 Testing the Working Memory



The program checks the working memory (RAM) of the microcomputer.

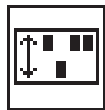


- Start the testing program with the enter key. The display shows the test results.

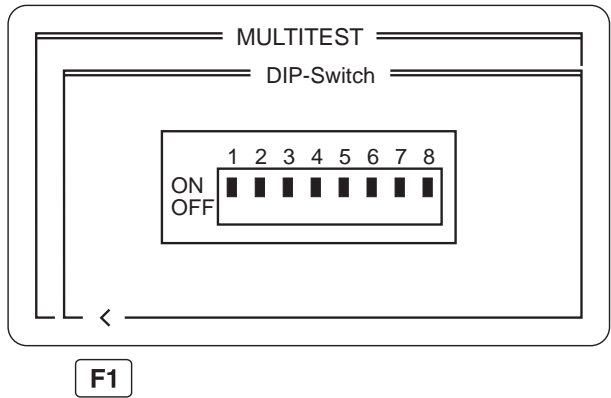
Display	Explanation
RAM OK	Working memory functioning flawlessly
RAM-Error	Error in the working memory

- To exit the testing program press the function key **F1**.

6.4.3 Displaying the Setting of the DIP Switches



The program shows the setting of the DIP switches on the CPU board of the control unit.



ATTENTION !

Currently the DIP switches are not employed on any machine class. The setting of the various DIP switches has no influence on the operation of the sewing unit.

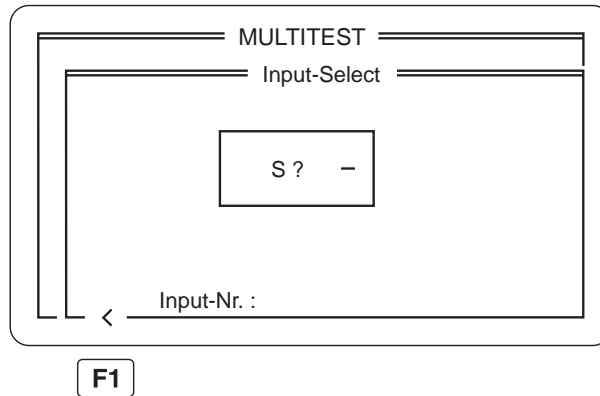
- Start the testing program with the enter key.
- To exit the testing program press the function key **F1**.



6.4.4 Selecting Input Elements



The program serves for the setting of the input elements.



ATTENTION !

All input elements were carefully set at the factory.
The setting and correction may only be conducted by trained service personnel.

- Start the testing program with the enter key.
- Enter the code number of the desired input element with the numeric keypad.
The short designations of the circuit diagram serve as code numbers (see following table).
- The display shows the wiring diagram designation and the switching status of the selected input element (e.g. "+S17").
The display changes when the switching status of the input element changes.

The switching status "+" means:

Contact switch	= Contact open
Proximity switch	= Metal in front of the switch
Reflected light barrier	= No reflection
Continuous beam barrier	= Beam not interrupted

- Set the input element until the display shows the desired switching status.
- To exit the testing program press the function key **F1**.



Input elements

745-26	745-28	Input element	Function	Feed method				
				A	B	C	D	F
X	X	S01	Left pedal 1	X	X	X	X	X
X	X	S02	Left pedal 2	X	X	X	X	X
X	X	S03	Left pedal 3	X	X	X	X	X
X	X	S04	Left pedal 4	X	X	X	X	X
X	X	S05	Right pedal 1	X	X	X	X	X
X	X	S06	Right pedal 2	X	X	X	X	X
X	X	S07	Right pedal 3	X	X	X	X	X
X	X	S08	Right pedal 4	X	X	X	X	X
X	X	S09	Limit switch Knife bracket forward	X	X	X	X	X
X	X	S10	Limit switch Knife bracket back	X	X	X	X	X
X	X	S11	Knife bracket Reference point	X	X	X	X	X
X	X	S15	Limit switch Transport carriage forward	X	X	X	X	X
X	X	S17	Limit switch Transport carriage back	X	X	X	X	X
X	X	S18	Needle thread monitor left	X	X	X	X	X
X	X	S23	Needle thread monitor right	X	X	X	X	X
X	X	S25	Transport carriage Reference position	X	X	X	X	X
X	X	S26	Folder up		X			
			Catch-folder up		X	X		X
			Positioning device up				X	
X	X	S27	Folder down		X			
			Catch-folder down		X	X		X
			Positioning device down				X	
X	X	S28	Catch-folder swung		X	X		X
			Positioning device swung				X	
X	X	S29	Catch-folder vertical		X	X		X
			Positioning device vertical				X	
X	X	S30	Flap seat up					O
X	X	S31	Pocket bag placement tilted				O	
X	X	S32	Pocket bag feed down				O	

Light barrier inputs

745-26	745-28	Input element	Function	Feed method				
				A	B	C	D	F
X	X	S100	Flap scanning 1	X	X	X	X	X
	X	S101	Flap scanning 2	O	O	O	O	O
X	X	S104	Stacking control	X	X	X	X	X
X	X	S106	Remaining thread monitor left	X	X	X	X	X
X	X	S107	Remaining thread monitor right	X	X	X	X	X

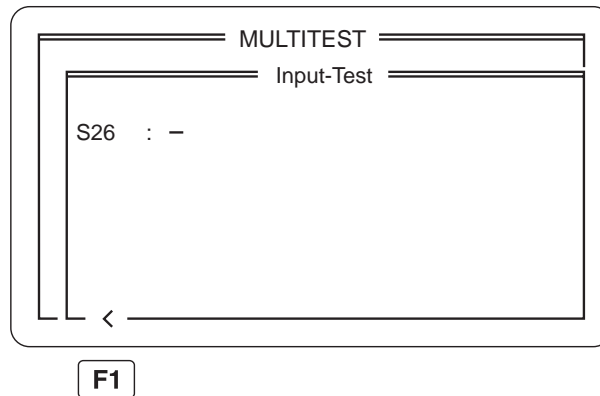
X = Standard equipment
O = Optional equipment



6.4.5 Checking Input Elements



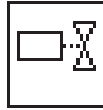
The program serves for the testing of the input elements.



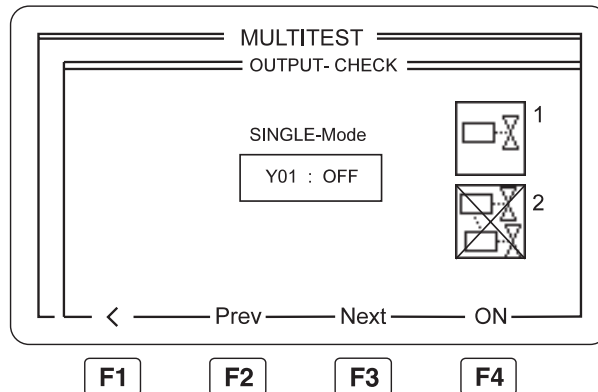
- Start the testing program with the enter key.
- Operate the input element to be tested.
- The display shows the wiring diagram designation and the switching status of the selected input element (e.g. "**+S17**"). The display changes if the switching status is changed or some other input element is changed. A change of the switching status is shown by an acoustic signal.
- To exit the testing program press the function key **F1**.



6.4.6 Selecting Output Elements



With the program the function of the output elements is checked. It is possible to test one (single-mode) or several (multi-mode) output elements at a time.



Caution Risk of Injury !

During the function testing of the output elements do not reach into the running machine.

- Start the testing program with the enter key.
- Make the selection between single-mode and multi-mode by the ten-key keyboard.

1 = SINGLE-Mode	Only one output element is tested.
2 = MULTI-Mode	A group of output elements are tested.
- Enter the code number of the desired output element by the key F2 (forwards) or F3 (backwards).
The code designations used in the circuit diagram are used as code numbers (see the following tables).
- The display shows the switching status (**ON/OFF**) of the selected output element.
- Turn the selected output element on and off by pressing the function key **F4** in tapping operation.
- To exit the testing program press the function key **F1**.



Inside output elements

745-26	745-28	Output element	Function	Feed method				
				A	B	C	D	F
X	X	Y01	Folder lifting Catch-folder lifting Positioning device lifting	X	X	X	X	X
X	X	Y02	Folder lowering Catch-folder lowering Positioning device lowering	X	X	X	X	X
X	X	Y03	Catch-folder swing Positioning device swing		X	X	X	X
X	X	Y04	Catch-folder vertical Positioning device vertical		X	X	X	X
X	X	Y05	Piping knife forward Positioning device right			X	X	
X	X	/Y06	Piping knife back Positioning device left			X	X	
X	X	Y07	Needles spreading Positioning device closing		X	X	X	X
X	X	Y08	Needle left Needle left and right	X	X	X	X	X
	X	Y09	Needle right	X	X	X	X	X
X	X	Y10	Link swing	X	X	X	X	X
X	X	Y11	Center knife	X	X	X	X	X
X	X	Y12	Transport clamp lifting	X	X	X	X	X
X	X	Y13	Transport clamp lowering	X	X	X	X	X
X	X	Y14	Flap clamp right lifting	X	X	X	X	X
X	X	Y15	Flap clamp left lifting	X	X	X	X	X
X	X	Y16	Folding plates closing	X	X	X	X	X
X	X	Y17	Thread drawing	X	X	X	X	X
X	X	Y18	Thread tension release	X	X	X	X	X
X	X	Y19	Flap feed swing in Pocket bag feed forward		O	O	O	X
X	X	/Y20	Flap feed swing out Pocket bag feed back		O	O	O	X
X	X	Y21	Flap feed L closing Pocket bag placement lifting		O	O	O	X
X	X	Y22	Flap feed L opening Pocket bag gripping		O	O	O	X
X	X	Y23	Flap feed R closing		O	O		X
X	X	Y24	Flap feed R opening		O	O		X
X	X	/Y99	Cover monitoring	X	X	X	X	X

/ = Open when idle
X = Standard equipment
O = Optional equipment

Valve arrangement 745-26:

Y99	Y24	Y23	Y22	Y21	Y20	Y19	Y16	Y15	Y14	Y13	Y12	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y17	Y18	Y11	Y10	Y8
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	----	----	----	----	----	-----	-----	-----	-----	----

Valve arrangement 745-28:

Y99	Y24	Y23	Y22	Y21	Y20	Y19	Y16	Y15	Y14	Y13	Y12	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y17	Y18	Y11	Y10	Y9	Y8
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	----	----	----	----	----	-----	-----	-----	-----	----	----



Outside output elements

745-26	745-28	Output element	Function	Feed method				
				A	B	C	D	F
X	X	Y33	Stopper Flap feed L					X
X	X	Y34	Corner knife Seam beginning	X	X	X	X	X
X	X	Y35	Corner knife Seam end	X	X	X	X	X
X	X	*Y36	Blower Reflecting foils	X	X	X	X	X
X	X	*Y37	Blower Flap feed		O	O		O
X	X	Y38	Sewing threads cutting	X	X	X	X	X
X	X	Y39	Thread clamp opening	X	X	X	X	X
X	X	Y40	Holder	O	O	O	O	O
X	X	Y41	Vacuum	O	O	O	O	O
X	X	Y42	Stacking	X	X	X	X	X
			Ejector lowering	X	X	X	X	X
X	X		Blower	X	X	X	X	X
X	X	Y43	Remover forward	O	O	O		O
			Pocket bag feed press forward				O	
X	X	Y44	Remover back	O	O	O		O
	X	Y45	Knife bracket Seam beginning 1	X	X	X	X	X
	X	Y46	Knife bracket Seam beginning 2	X	X	X	X	X
	X	Y47	Knife bracket Seam beginning 3	X	X	X	X	X
	X	Y48	Knife bracket Seam beginning swing	X	X	X	X	X
	X	Y49	Knife bracket Seam end 1	X	X	X	X	X
	X	Y50	Knife bracket Seam end 2	X	X	X	X	X
	X	Y51	Knife bracket Seam end 3	X	X	X	X	X
	X	Y52	Knife bracket seam end swing	X	X	X	X	X
X	X	/Y53	Flap seat lifting					X
X	X	Y54	Flap seat lowering					X
X	X	Y55	Flap seat swing forward					X
X	X	/Y56	Flap seat swing back					X
X	X	Y57	Flap seat opening					X
X	X	Y58	Flap seat closing					X
X	X	/Y59	Tape brake	O	O	O	O	O
X	X	Y60	Tape scissors (directly at the scissors)	O	O	O	O	O
	X	Y61	Corner knife lock left	O	O	O	O	O
	X	Y62	Corner knife lock right	O	O	O	O	O
X	X	Y63	Stacker addition lowering	O	O	O	O	O

* = Oil-free air

/ = Open when idle

X = Standard equipment

O = Optional equipment

Valve arrangement 745-26:

Y34	Y35	Y38	Y39	Y40	Y41	Y42	Y43	Y44	Y53	Y54	Y55	Y56	Y57	Y58	Y59	Y60	Y36	Y37
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Valve arrangement 745-28:

Y34	Y35	Y38	Y39	Y42	Y45	Y46	Y47	Y48	Y49	Y50	Y51	Y52	Y40	Y41	Y43	Y44	Y53	Y54	Y55	Y56	Y57	Y58	Y33	Y59	Y60	Y61	Y62	Y36	Y37
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



Supplimentary outputs

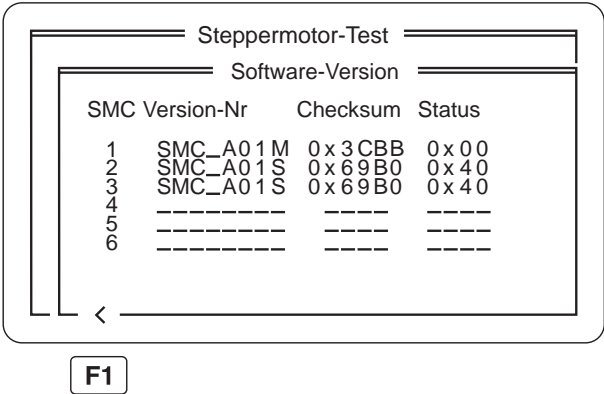
745-26	745-28	Output element	Function	Feed method				
				A	B	C	D	F
X	X	Y100	Smoother 0	O	O	O		O
X	X	Y101	Smoother 1	O	O	O		O
X	X	Y102	Smoother 2	O	O	O		O
X	X	Y103	Smoother 3	O	O	O		O
X	X	Y104	Lamp back A1	X				
X	X	Y105	Lamp back A2	X				
X	X	Y106	Lamp forward A1	X				
X	X	Y107	Lamp forward A2	X				
		Y104	Lamp forward 1		X	X		X
		Y105	Lamp forward 2		X	X		X
		Y106	Lamp back 1		X	X		X
		Y107	Lamp back 2		X	X		X

X = Standard equipment
O = Optional equipment

6.4.7 Checking the Step Drives



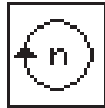
The program shows the software version of the step drives.



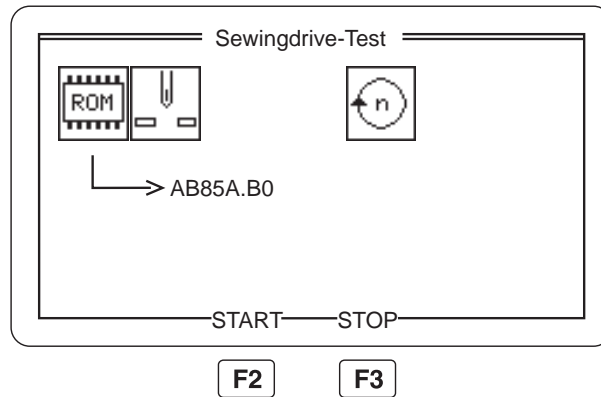
- Start the program with the enter key.
The display shows the software versions of the step drives.
- To exit the testing program press the function key **F1**.



6.4.8 Checking the Sewing Drive



The program serves for the testing of the needle positions and the different rpm levels of the sewing drive.



- Start the testing program with the enter key.
- Select the symbol of the desired parameter with the cursor keys "←" or "→".
The selected symbol appears inversely.
- Set the parameter with the cursor keys "↑" or "↓".



Display the program version of the sewing drive



Sewing drive runs at the selected rpm,
machine head positions in the set position



Machine head positions in position 2



Machine head positions in position 1



Machine head stops unpositioned



Selecting motor rpm
Enter: 70...maximum rpm [rpm]

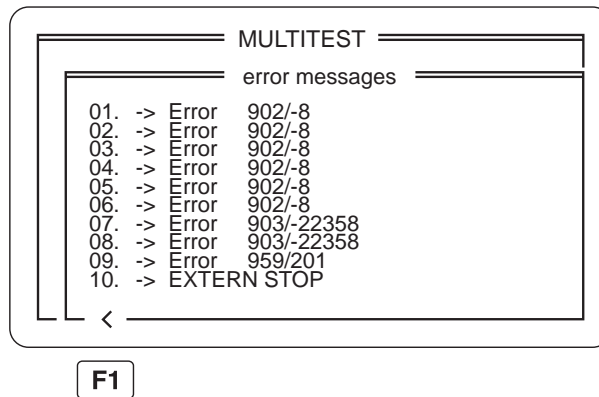
- Press function key **F2**.
The sewing drive runs at the set rpm.
The current rpm (e.g. "**0199 rpm**") appears in the upper right corner of the display.
- Press function key **F3**.
The sewing drive stops.
The machine head positions in the set position.
- To exit the program press the "**STOP**" key.



6.4.9 Displaying the Error Messages Generated



The program shows the last 10 error messages in the display. The error messages and their meaning are listed in Chapter 8.

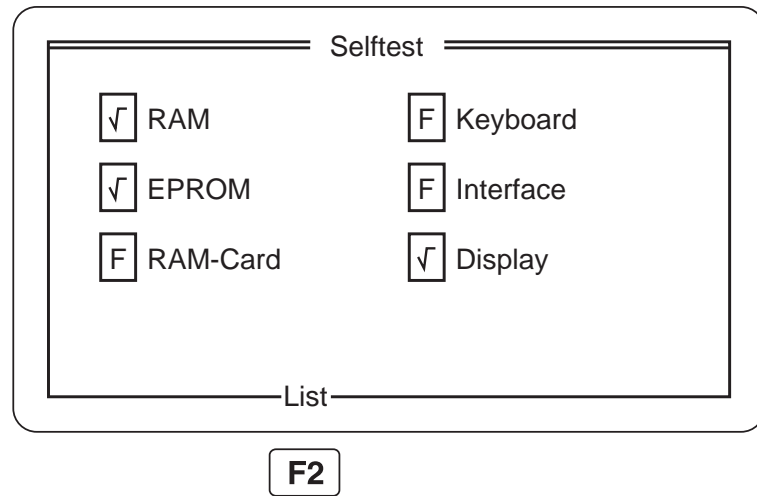


- Start the testing program with the enter key. The last 10 error messages appear in the display.
- To exit the program press function key **F1**.



6.5 Terminal Selftest (+)

With the terminal selftest service personnel check the individual components of the operator terminal.



- While the DÜRKOPP-ADLER logo is shown in the display press the function key **F4**.
The terminal selftest runs through the following test programs consecutively.
The testing procedures are shown in the display by run bars.
- **RAM test**
The RAM test checks the working memory ("Video RAM") of the operator terminal.
After completion of the RAM test the terminal selftest automatically changes to the EPROM test.
- **EPROM test**
The EPROM test checks the program memory ("Program Memory") of the control unit.
By pressing the function key **F2** the terminal selftest continues with the RAM card test.
- **RAM card test**
The RAM card test checks the memory card.
After completion of the RAM card test the terminal selftest automatically changes the keyboard test.
- **Keyboard test**
The keyboard test checks the keypad of the operator terminal.
After pressing any key a checkmark appears in the display behind this key by faultfree functioning.
By pressing the "**ESC**" key the keyboard test is ended.
The display changes to the interface test.
- **Interface test**
The interface test checks the interface of the operator terminal (special cable required!).
After completion of the interface test the terminal selftest automatically changes to the display test.
- **Display test**
The display test shows the available character set ("Character Set") and the graphics characters ("Graphic") of the display.
By pressing the function key **F2** the display changes to the main screen of the terminal selftest (see illustration).
- **Main screen**
From the main screen a complete **Test Protocol** can be called up with the function key **F2**.
To exit the terminal selftest press the "**STOP**" key.



7. Output Card of the Step Motor



ATTENTION !

Before starting operation it is essential to check the settings of the step motor output card.

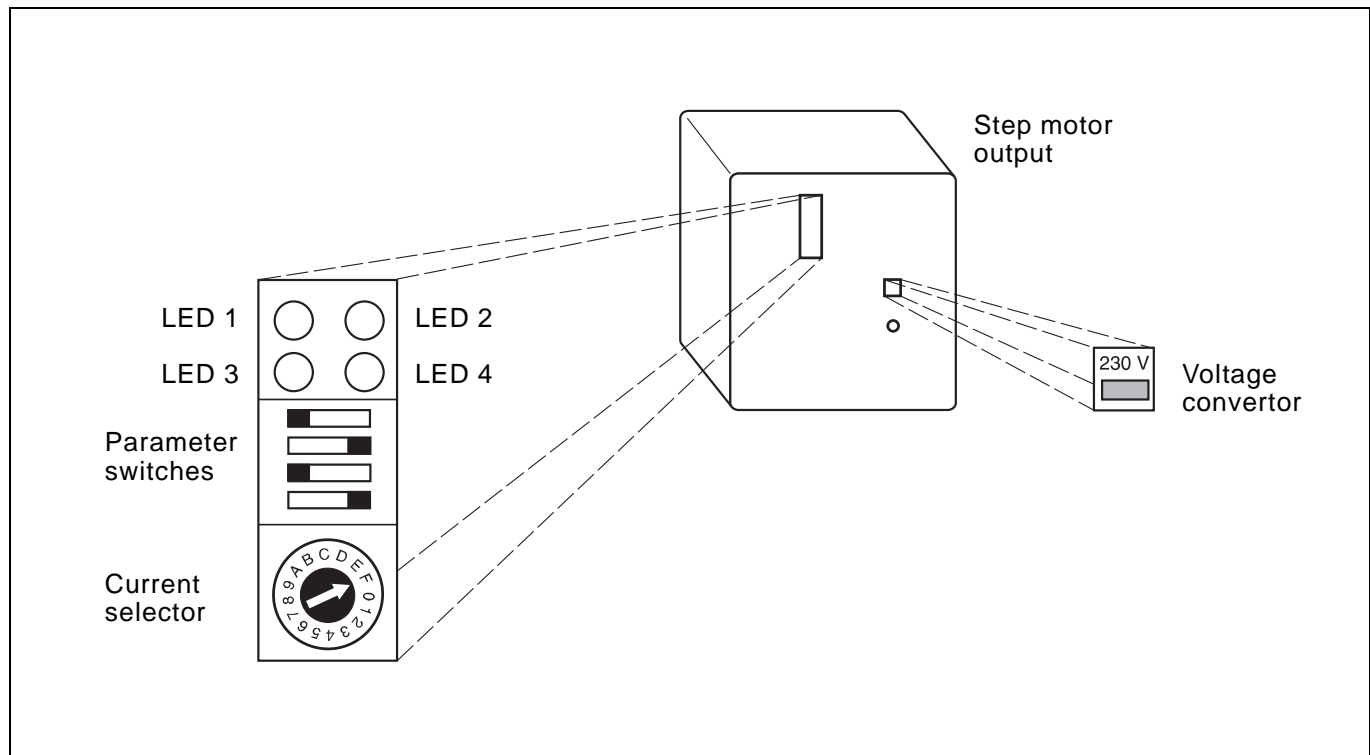
The step motor output is to be found at the right under the table.
After removing the metal cover the setting elements shown below are accessible.

7.1 Switches on the Front



Caution Electric Current !

Turn the main switch off.
The switches may not be adjusted carrying current.



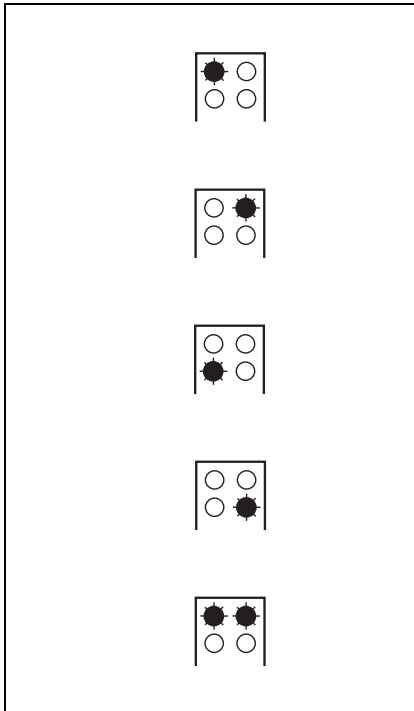
The switches must be in the positions shown!

LED 1 - LED 4	see Chapter 7.2
Parameter switches	see illustration
Current selector	F
Voltage convertor	230 V



7.2 Status Displays on the Front

The four red light diodes (LEDs) on the output card show the operating status and malfunctions of the step motor.
With flawless operation none of the LEDs may be lit.



LED 1	Undervoltage Shortfall in the operating voltage of more than 30%
LED 2	Phase monitoring Interruption in one or more motor wires
LED 3	Short circuit Short circuit between two or more motor phases or motor phase and ground
LED 4	Overheating Exceeding the allowable operating temperature
LED 1 and LED 2	Reset ENABLE input is not activated by the controls

A fault in the output card is shown as follows:

- After the recognition of the error the step motor is turned off for safety reasons (Reset).
For this reason LED 1 and LED 2 are always lit after an error message of the controls.
- The display shows the appropriate error number.
- The statuses of the output card can only be called up with the appropriate testing program of the Multitest system (**STOP + F3**).



Check the step drives

- After correction of the fault the malfunction message is cleared by turning the main switch off and on again.



8. Error Messages

With an error in the control system or in the machine program the display shows the corresponding error number.

With the aid of the following tables the error cause can be found and remedied.

8.1 Error Messages of the Controls

Error number	Explanation	Remedy
100 101 - 199	Undervoltage Processor fault	Stabilize the voltage supply ---
EXTERN STOP	External stop input operated	Close the cover hood
300 - 399	Error in the data transmission to the sewing drive	Check the cable
400 - 411	General step motor fault	---
412	Output fault AMP1 error (Sewing goods)	see Chapter 7.2
413	Output fault AMP2 error (Knife)	---
414	Output fault AMP3 error (Tape)	---
418 - 420	Error in the step motor card during the acknowledgement (Time Out)	---

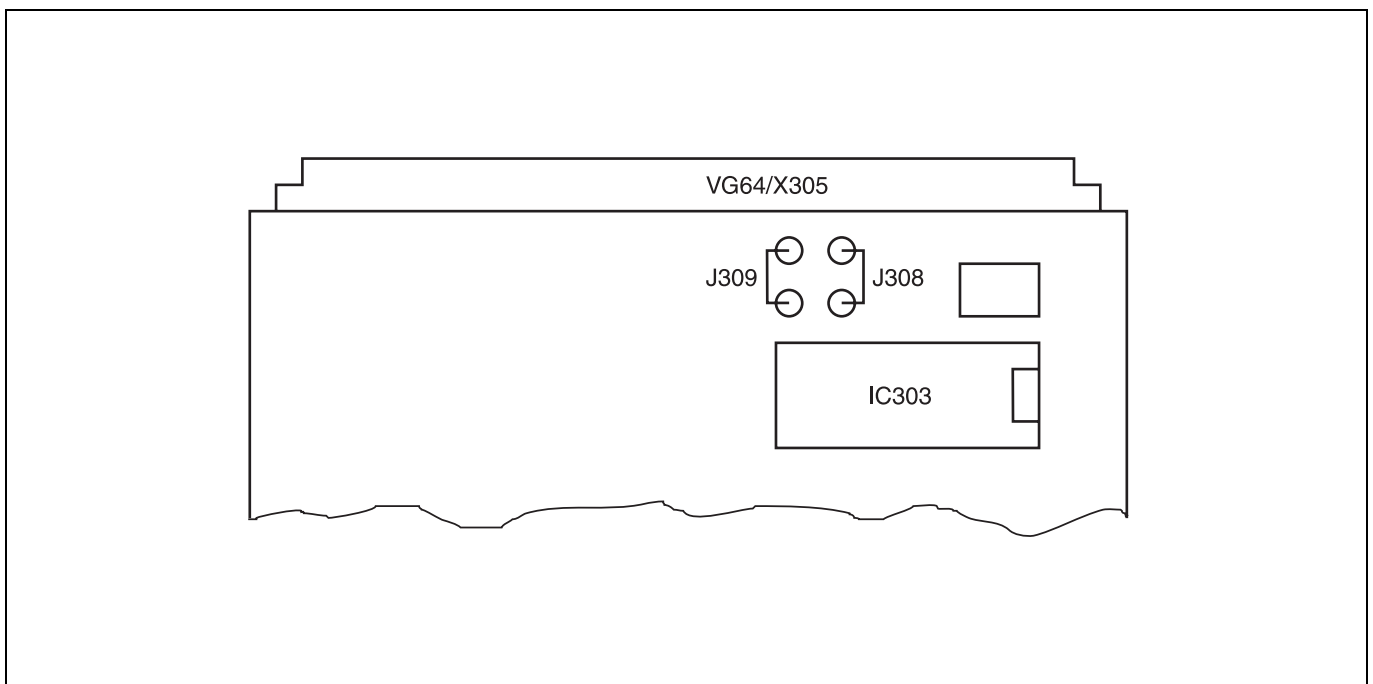
8.2 Error Messages of the Machine Program

Error number	Explanation	Remedy
700	Catch-folder not up	Correct the setting
701	Catch-folder not vertical	Correct the setting
702	Catch-folder not swung	Correct the setting
703	Positioning device not up	Correct the setting
704	Folder not down	Correct the setting
720	Light barrier error at the seam beginning	Replace the reflecting foil
721	Reflecting foil at the seam beginning not recognized	Replace the reflecting foil
722	Safety stop	Flap outside of seam area or the missing connection of the 2nd light barrier for the detection of inclination or for activating the pocket program.
723	Jumper J308 at the step motor controller not plugged	Plug in jumper J308 (see sketch pg. 49)
724	Jumper J309 at the step motor controller not plugged	Plug in jumper J309 (see sketch pg. 49)
730	with flap seat and transport carriage in the feed position	Carriage return in the wait position
731	carriage return with sewing goods set to work procedure B - H	Reset the carriage return or feed device
740 - 742	Error in the moving of the knife transport	Check the knife drive



Error number	Explanation	Remedy
745	Step motor main axle has not reached the rear limit switch (S17)	Check the sewing goods transport and limit switch
746	Step motor main axle has not left the forward limit switch (S15) after 100 ms	Check the sewing goods transport and limit switch
748	Step motor main axle has run past the forward limit switch (S15)	Check the sewing goods transport and limit switch
749	Step motor main axle has run past the rear limit switch (S17)	Check the sewing goods transport and limit switch
900	Check sum error in the machine parameters	Reinitialize the defective machine parameters (see Chapter 6.3.2)
901	Check sum error in the pocket sequences	Reinitialize the defective pocket sequences (see Chapter 6.3.2)
902	Check sum error in the pocket programs	Reinitialize the defective pocket programs (see Chapter 6.3.2)
903	Check sum error in the seam patterns	Reinitialize the defective seam patterns (see Chapter 6.3.2)
910 - 991	Error in reading or writing on the memory card	Repeat the operation, Switch off the write protection on the card, Replace the card battery

Jumper on the Step Motor Controller





A. Appendix

A.1 Standard Seam Patterns

After the initialization of the program memory the following 25 seam patterns are present in the controls.
The individual seam patterns can be called up directly by entering the seam pattern number (1...25).

